REMARKS

Applicants thank the Examiner for the courtesy extended to Applicants' attorney during the interview held August 14, 2006, in the above-identified application. During the interview, Applicants' attorney explained the presently-claimed invention and why it is patentable over the applied prior art, and discussed other issues raised in the Office Action. The discussion is summarized and expanded upon below.

The rejections under 35 U.S.C. § 103(a) of:

Claims 1, 31, 32 and 34 over Appl. Phys. Lett. **75** (20), pp. 3216-18 (1999) (Marinelli et al) in view of U.S. 5,443,032 (Vichr et al),

Claims 11-12 over Marinelli et al and Vichr et al, and further in view of U.S. 5,803,967 (Plano et al), and

Claim 33 over Marinelli et al and Vichr et al, and further in view of Appl. Phys. Lett. **66** (4), pp. 460-62 (1995) (Yoneda et al),

are respectfully traversed.

As recited in Claim 1 herein, an embodiment of the present invention is a single crystal diamond prepared by CVD and having at least one of five particular characteristics. In the presently-active claims, the characteristic is a charge collection distance greater than 150 μm measured at an applied field of 1V/μm and 300 K.

In the Office Action, the Examiner finds that Marinelli et al "implies" a charge collection distance (CCD) of "about" 150 μm at an applied field of 1 V/μm for an "almost" single crystal diamond based on Marinelli et al's disclosure of their films being "almost free of grain boundaries", combined with Equation (3) and Fig. 2 therein, which the Examiner interprets as showing an efficiency at 1 V/μm of about 60% of the efficiency at, in effect, 4 V/μm. The Examiner also finds that it would have been obvious to remove the portion in Marinelli et al not almost free of grain boundaries to increase CCD. The Examiner further

finds that Vichr et al suggests using a CVD method that results in single-crystal diamond in the first place as the method in Marinelli et al. The Examiner relies on US 5,803,967 (Plano et al) to suggest that practicing the surface etching therein would result in a CCD according to Claims 11 and 12.

The newly-submitted Scarsbrook Declaration addresses the deficiencies in Marinelli et al and in its combination with the other applied prior art. While the Scarsbrook Declaration should be reviewed in full, it may be summarized as follows:

It begins by explaining the relevant differences between single crystal diamond and the polycrystalline diamond of Marinelli et al, and that the finding that the polycrystalline diamond film of Marinelli et al is "almost free of grain boundaries" is incorrect and grossly misleading, and particularly taken out of its intended context. Next, it reviews Marinelli et al's discussion of CCD values and why Marinelli et al's methodology is deficient but nevertheless, Marinelli et al's CCD values still do not meet characteristic (v) of Claim 1 herein. It then explains why one skilled in the art would not have combined Marinelli et al with Vichr et al, and with Vichr et al and Plano et al.

While the Scarsbrook Declaration does not address Yoneda et al, Yoneda et al does not remedy the deficiencies in the combination of Marinelli et al with Vichr et al addressed by Scarsbrook.

For all the above reasons, it is respectfully requested that the rejections over prior art be withdrawn.

The provisional rejection of Claims 1 and 11 on grounds of non-statutory obviousness-type double patenting over Claims 5 and 6, respectively, of copending application No. 10/739,014 (copending application) in view of U.S. 5,614,019 (Vichr et al '019), is respectfully traversed.

The Examiner is respectfully requested to hold the rejection in abeyance until the present claims are found to be allowable but for this rejection or the copending application has been patented. See M.P.E.P. 822.01.

For all the above reasons, it is respectfully requested that the provisional rejection be held in abeyance, if not withdrawn.

Applicants respectfully traverse the Examiner's failure to consider the Information Disclosure Statement (IDS) filed February 13, 2004, and the Related Cases Statement filed May 12, 2004. As indicated in the IDS, the listed references were made of record in the parent application herein. According to MPEP § 609.02, "[t]he Examiner **will** consider information which has been considered by the Office in a parent application when examining (A) a continuation application filed under 37 C.F.R. § 1.53(b)" (emphasis added). Regarding the Related Cases Statement, only three applications are listed, including the present application. The first application listed is indicated as being abandoned. The remaining application is the above-discussed copending application which is the subject of the provisional obviousness-type double patenting rejection. Thus, there is no reason for the Examiner not to have considered the Related Cases Statement. **Submitted herewith** is another copy of the Form PTO-1449 and the Related Cases Statement. The Examiner is respectfully requested to initial the forms, and include a copy thereof with the next Office communication.

Applicants acknowledge the Examiner's indication during the above-referenced interview, as confirmed in the corresponding Interview Summary, that the next Office Action will be non-Final (if not a Notice of Allowance.) Applicants note that while Claim 13 is listed on the Office Action Summary page as being rejected, no particular rejection has been made thereof.

Applicants respectfully submit that all of the presently-pending and active claims in this application are now in immediate condition for allowance. The Examiner is respectfully requested to extend his search to non-elected species. In addition, the non-elected method claims all depend on Claim 1, and are thus rejoinable if Claim 1 is allowable. In the absence of further grounds of rejection, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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